



Course Specification

(Bachelor)

Course Title: Entomology

Course Code: BIOL 316

Program: Biology

Department: Biology Department

College: College of Science

Institution: Majmaah University

Version: 3 rd Version

Last Revision Date: 24/12/2023



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A. General information about the course:

1. Course Identification

1. Credit hours: 3 (2+1)

Equivalent to ECTS Credit Point: 4.5

2. Course type

A. University College Department Track Others

B. Required Elective

3. Level/year at which this course is offered: 5th level / 3rd year

4. Course general Description:

Entomology is an introduction to insects and their allies. Topics include morphological and anatomical adaptations, evolution, classification, identification, ecology, social applications, epidemiology and medical applications.

5. Pre-requirements for this course (if any):

BIOL-112

6. Co-requirements for this course (if any):

N/A

7. Course Main Objective(s):

- Analyze ecological roles of insects, including pollination, decomposition, and interactions with other organisms.
- Learn the basic external morphology and internal anatomy of insects and how it is used in classification.
- Explain insect development, reproduction, and life cycles.

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	60	80%
2	E-learning	15	20%
3	Hybrid <ul style="list-style-type: none"> • Traditional classroom • E-learning 	--	--
4	Distance learning	--	--





3. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	Lectures	30
2.	Laboratory/Studio	30
3.	Field	--
4.	Tutorial	--
5.	Others (specify)	--
Total Contact hours		60

Workload (based on the academic semester)

No	Activity	Workload (in hours)
1.	Contact Hours	60
2.	Self-study hours or Academic learning hours (Assignment, Quizzes, Reports, Discussions, Library, Research, ...)	60
Total Workload		120 hours
Equivalent to ECTS Credit points		4.5

B. Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
1.0	Knowledge and understanding			
1.2	Outline the different biological processes of the insects showing the adaptation to the environment.	K2	<ul style="list-style-type: none"> Lecture Notes Power Point Presentation Individual and group discussion. 	<ul style="list-style-type: none"> Assignments Quizzes Midterm and final exams
2.0	Skills			
2.1	Apply biological concepts using integration of academic knowledge and professional skills in insects	S1	<ul style="list-style-type: none"> Lecture Notes Power Point Presentation Individual and group discussion. 	<ul style="list-style-type: none"> Assignments Quizzes Midterm and final exams
2.4	Examine the slides in practical part and use perfectly the living specimens.	S4	<ul style="list-style-type: none"> Practical Notes Power Point Presentation Laboratory assignments Individual and group discussion. 	<ul style="list-style-type: none"> Practical exams Lab reports





Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
			Practical works - videos	
3.0	Values, autonomy, and responsibility			
3.2	Communicate effectively in groups as well as individually to differentiating the various concepts of entomology	V2	Students will practice as groups (team work)	Assessment of team assignment presentation and reports.
...				

C. Course Content

No	List of Topics	Contact Hours
1.	Importance of Insects and why do we study insects.	2
2.	Reasons for Success	2
3.	External Anatomy: The Integumentary System & Molting	2
4.	The Head: Antennae – Mouthparts - Sensory role	2
5.	The Thorax: Wings – Legs (Locomotion)	2
6.	The Abdomen	2
7.	Growth & Development: Embryogenesis	2
8.	Growth & Development: Morphogenesis - Metamorphosis	2
9.	Internal Anatomy & Physiology The Endocrine System	2
10.	Digestive & Excretory Systems	2
11.	Insect Nutrition	2
12.	Circulatory System	2
13.	Respiratory System	2
14.	Reproductive System	2
15.	The Nervous System	2
Total		30

Practical content

No	List of Topics	Contact Hours
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1	Types of Antennae	2
2	Types of Mouthparts	2
3	Types of Wings	2
4	Types of Legs	2
5	Digestive System	2
6	Excretory System	4
7	Circulatory System	4
8	Reproductive System	4
9	Metamorphosis	4
1	Nervous System	4
Total		30

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Group project & essays	Week 1-15	10 %
2.	Mid-term Exam 1	Week 8	10 %
3.	Mid-term Exam 2	Week 12	10 %
4.	Bb electronic exam	Week 13	10 %
5.	Practical workbook notes	Week 14	10 %
6.	Practical exam	Week 15	10 %
7.	Final Exam	Week 16	40 %

*Assessment Activities (i.e., Written test, oral test, oral presentation, group project, essay, etc.).

E. Learning Resources and Facilities

1. References and Learning Resources

Essential References	<ul style="list-style-type: none"> •Borror, D.J., C. A. Triplehorn, and N. F. Johnson. 2022. An introduction to the study of insects. Sixth ed. Saunders College Publishing. Williams, S. C. 2021. General Entomology – a course reader and laboratory manual. Available at SFSU Bookstore.
Supportive References	<ul style="list-style-type: none"> •Bland, R. G. and H. E. Jaques. How to know the insects. Wm C. Brown. Elzinga, R. J. Fundamentals of Entomology. Prentice Hall
Electronic Materials	<ul style="list-style-type: none"> •Saudi Digital Library <ul style="list-style-type: none"> • https://www.sdl.edu.sa/SDLPortal/Publishers.aspx



Other Learning Materials

Videos, slides and presentations that are available with the instructor.

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	<ul style="list-style-type: none"> The number of seats in classrooms and lab. is suitable and no need for extra seats. The classrooms provided with smart board and e-podium and laboratories provided with smart board.
Technology equipment (projector, smart board, software)	The classrooms are provided with smart board and e-podium
Other equipment (depending on the nature of the specialty)	<p>Department need a computer room containing at least 30 systems for Bb exams and e-learning.</p> <p>Laboratory samples required list:</p> <ul style="list-style-type: none"> Insect Collection Set 1, Plastomount Mounted Carolina Item # POM2680. Insect Collection Set 2, Plastomount Mounted Carolina Item # POM2683. Beneficial Insects, Collection Carolina Item # POM2691. Harmful Insects Collection Carolina Item # POM2693. <p>The Life of the Honey Bee (<i>Apis cerana</i>) 3BS-1005971.</p>

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	Students	Indirect
Effectiveness of students assessment	Program Leaders	Indirect
Quality of learning resources	Faculty	Direct
The extent to which CLOs have been achieved	Program Leaders	Direct
Other		

Assessors (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

Assessment Methods (Direct, Indirect)

G. Specification Approval

COUNCIL /COMMITTEE	DEPARTMENT COUNCIL
REFERENCE NO.	7
DATE	04/04/1446 (7/10/2024)

